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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,468	05/09/2001	Christian Kratzsch	STUR-37	5594

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EXAMINER

EDMONDSON, LYNNE RENEE

ART UNIT

PAPER NUMBER

1725

DATE MAILED: 05/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/831,468

Applicant(s)

KRATZSCH ET AL.

Examiner

Lynne Edmondson

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24-34 and 37-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-34 and 37-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

1. Claims 39, 41, 42 and 47-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (USPN 6040550).

Chang teaches a method and device for laser processing (figure 1 and col 4 lines 40-64). The method comprises the steps of processing a workpiece by laser radiation by focusing radiation onto a workpiece, monitoring the process by detecting light radiation emanating from the workpiece wherein optical measurement is performed in a processing area of the workpiece by means of an external non-laser source (20) of measuring light disposed in the processing head utilizing measuring reflected light wherein light for process monitoring and reflected light are detected utilizing a processing optic (lens and camera) (col 5 and lines 37-43 and col 6 lines 4-52). The reflected light is in straight-line segments and the processing light contacts the

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workpiece at a 90-degree angle (figure 1). The detector comprises a camera and light source (col 6 lines 5-8). See also Chang claims 1-4, 15, 19-22, 34-36 and 42-50.

2. Claims 26-30, 32-34, 41-44 and 47-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Lemelson (USPN 5871805).

Lemelson teaches a method and device for laser processing (col 2 lines 13-15). The method comprises the steps of processing a workpiece by laser radiation by focusing radiation onto a workpiece, monitoring the process by detecting light radiation (col 13 lines 50-54) emanating from the workpiece wherein optical measurement is performed in a processing area of the workpiece by means of an external source of measuring light utilizing measuring reflected light wherein light for process monitoring and reflected light are detected utilizing a processing optic (col 13 line 28 – col 14 line 7). The reflected light is parallel and the processing light contacts the workpiece at an angle (figure 4). The method comprises distance measurement and mapping of the workpiece geometry into zones (selected areas, col 15 lines 24-33). The sensors are areally arranged (col 13 lines 28-35 and figures 4 and 5). The measuring light is modulated at fixed frequency in temporal succession (col 11 lines 1-30). See also Lemelson claims 1 and 11-20, 26 and 35-37.

3. Claims 26-34, 37-44 and 46-49 are rejected under 35 U.S.C. 102(e) as being anticipated by Beyer et al. (USPN 5373135).

Beyer teaches a method and device for laser processing. The method comprises the steps of processing a workpiece by laser radiation by focusing radiation (12) onto a workpiece (10), monitoring the process by detecting light radiation emanating from the workpiece (col 1 lines 14-35) wherein optical measurement is performed in a processing area of the workpiece by means of an external source of measuring light utilizing measuring reflected light (12') from a plasma wherein light for process monitoring and reflected light are detected utilizing a single processing optic (mirror 15) (col 3 line 66 – col 4 line 18 and figure 1). The light radiation is isoaxial to the viewing optics and at an angle forming a cone relative to the workpiece (figure 1). An optical measurement is performed which maps the melt at the processing sight (col 5 lines 11-24). Different zones (areas above and below the workpiece, holes within the workpiece and the entire thickness of the workpiece) are sensed simultaneously (col 7 line 55 – col 8 line 8). Secondary radiation is used as reflected measuring light from regions surrounding the processing zone (vapor capillary) (figures 3a-3c and col 6 lines 24-45). The area as a whole is sensed with local (high) resolution (col 4 lines 12-26). The detector comprises a linear array (row) of sensors (col 7 lines 34-54) which read out (give output values) for analysis (evaluation unit 20) through windows (col 4 lines 33-44 and col 4 line 61 – col 5 line 10) wherein analysis may be continuous or intermittent (col 2 line 25 – col 3 line 17 and col 7 lines 18-25). The optic is a decoupling component (perforated mirror 15) placed in the beam path (col 4 lines 3-15 and figure 1) and disposed in the not numbered laser head containing parts 15 and 27 in figure 1. The measuring light is amplitude modulated at a fixed frequency (col 4 line 61 – col 5 line 5).

The light can be applied in temporal succession with repetition (time intervals, col 7 lines 19-25). Disposed ahead of the detector is an optical filter system to delimit the observation zones of the processing area (col 4 lines 45-60). See Beyer claims 1-12.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 26-34 and 37-49 have been considered but are moot in view of the new ground(s) of rejection.

5. However it is noted that regarding applicant's argument that Beyer does not teach a non-laser measuring light source in addition to the laser source, see col 1 lines 61-67, col 2 lines 35-39 and col 4 lines 45-60 which teach a plasma that is not a laser but emits light which is measured by an optical detector (col 5 lines 11-33). At least part of the light is reflected (col 6 lines 24-32).

### ***Allowable Subject Matter***

6. Claim 45 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art teaches the invention essentially as claimed but does not teach the detector range. See Kasner et al. (USPN 4789770).

**Conclusion**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Essein et al. (USPN 6075220), Buchel et al. (USPN 4924063), Kasner et al. (USPN 4789770) and Beyer et al. (USPN 5373135).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (703) 306-5699. The examiner can normally be reached on M-F from 7-4 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-7115 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Lynne Edmondson  
Examiner  
Art Unit 1725



5/14/03

LRE  
May 14, 2003